U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE

HEARING CHARTER

Bioterrorism Preparedness: People, Tools, and Systems for
Detecting and Responding to a Bioterrorist Attack

Monday, May 3, 2004
10:00 a.m. - Noon
Shawnee Mission Medical Center
Shawnee Mission, Kansas

1. Purpose

On Monday, May 3, 2004, the House Science Committee will hold a field hearing to receive testimony on state and local preparedness for a bioterrorist attack, on the role of the federal government in supporting local efforts to prepare for, detect, and respond to a bioterrorist attack, and on the development and deployment of tools and systems for detecting and responding to a bioterrorist attack.

2. Witnesses

Mr. Charles A. Schable is the Director of the Bioterrorism Preparedness & Response Program at the U.S. Department of Health and Human Services' Centers for Disease Control and Prevention (CDC). CDC's bioterrorism and public health preparedness activities include support for strengthening of regional and state laboratories' capacity to detect different biological and chemical agents, upgrading of state and local health agencies' capacity to detect and communicate different health threats, and working with pharmaceutical companies and other partners to create regional stockpiles of the drugs needed to treat intentionally-launched disease outbreaks.

Mr. Samuel H. Turner, Sr. is the Chief Executive Officer of Shawnee Mission Medical Center (SMMC). SMMC has mutual aid agreements with local government agencies to monitor and respond to potential biological events, and uses biosurveillance software to coordinate and communicate with other local hospitals to track outbreaks of diseases.

Mr. Richard J. Morrissey is Acting Director of Health at the Kansas Department of Health & Environment (KDHE). The KDHE responds to potential public health emergencies resulting from bioterrorism events and natural disease outbreaks. The KDHE Bioterrorism Program includes preparedness planning and response assessment, surveillance and epidemiologic capacity, laboratory capacity, health alert network/communications and information technology, risk communication and health information dissemination, and education and training.

Ms. W. Kay Kent is the Administrator/Health Officer at the Lawrence-Douglas County Health Department. Her expertise is in community health nursing, and she serves on the Bioterrorism Preparedness Planning Committee for the Kansas Department Health and Environment and Kansas Association of Local Health Departments. Lawrence-Douglas County experienced an outbreak of cryptosporidiosis in September of 2003, so Ms. Kent has recent practical experience in disease/outbreak management, treatment, and prevention, as well as in working with CDC in outbreak response efforts.

Mr. Brad Mason is the Division Chief of Special Operations at Johnson County Med-Act, where he directs the emergency medical services (EMS) Special Operations Teams. He is responsible for EMS emergency planning for mass casualty, mass fatality, incident management, hazardous materials, and weapons of mass destruction incidents. He is also the Chairman of the Mid America Regional Council Emergency Response Committee, through which he has worked on regional incident response and communications plans and metro-wide hospital diversion protocols.

Dr. Ronald J. Kendall is the Director of The Institute of Environmental and Human Health (TIEHH) at Texas Tech University/Texas Tech University Health Sciences Center. He is an expert in environmental toxicology. TIEHH leads the Admiral Elmo R. Zumwalt, Jr. National Program for Countermeasures to Biological and Chemical Threats, which includes work on detection, biological mechanisms, physical and medical countermeasures, modeling, and education, training, and outreach.

3. Overarching Questions

The hearing will address the following overarching questions:

- How do first responders, federal, state and local governments, and health services providers work together to prepare for, detect, and respond to bioterrorist attacks?
- What tools and systems are used to detect and respond to bioterrorist attacks? What tools need to be developed? Who is developing these tools? Who is deploying them? What barriers exist to their use?
- How does preparedness for bioterrorist attacks affect our ability to meet day-to-day health care needs and respond to natural disease outbreaks?

4. Brief Overview

- To be properly prepared to detect and respond to a bioterrorist attack, numerous governmental and private entities must coordinate their efforts and plan for targeted and prioritized use of public health resources. Key players include federal agencies, state and local health departments, first responders, and hospitals.
- Development and deployment of information technology systems for the detection of bioterrorist agents or other infectious diseases, the surveillance of unusual symptoms, and rapid communication during incident management is significantly improving capabilities to detect and respond effectively to bioterrorist incidents and natural outbreaks of infectious diseases.

- After the anthrax attacks in the fall of 2001, the Department of Health and Human Services (HHS) expanded its programs to fund state, municipal, and territorial governments' efforts to upgrade their bioterrorism preparedness and response capabilities. In fiscal years 2002 and 2003, HHS distributed a total of $2.5 billion.
- Great strides in preparedness have been made. However, a 2003 GAO report found that workforce shortages and gaps in disease surveillance and laboratory facilities continue to potentially limit state and local jurisdictions' ability to response to a bioterrorist attack. Further strengthening public health systems will not only improve bioterrorism preparedness, but will also improve our capability to detect and respond to natural outbreaks of infectious diseases.

5. Background

Vulnerability to Infectious Disease Crises

We live in a mobile, highly interconnected society. Infectious diseases can be spread rapidly via people's movement across countries and across oceans on planes, and hazardous substances can be spread broadly via the mail system. The dangers and potential impact of a bioterrorist attack can be seen in recent examples of intentional and natural disease outbreaks—the anthrax attacks through the postal system in the fall of 2001 and the severe acute respiratory syndrome (SARS) epidemic experienced by China and internationally in 2003. These incidents highlight the challenges inherent in identifying and addressing gaps that could impair health systems' capacity to respond to sudden infectious disease outbreaks. To be properly prepared for a bioterrorist attack, plans for targeted and prioritized use of public health resources must be made, and these plans will have the added benefit of improving our capability to detect and respond to natural outbreaks of infectious diseases.

Efforts to Improve Preparedness

After the anthrax attacks in the fall of 2001, Congress was concerned that the nation was not prepared to respond to a bioterrorist attack that resulted in a major public health threat. Therefore, several months after the incidents, Congress appropriated funds to strengthen state and local bioterrorism preparedness. The Department of Health and Human Services (HHS), through the CDC and the Health Resources and Services Administration, provided funds through cooperative agreement programs with state, municipal, and territorial governments. These agreements were aimed at upgrading bioterrorism preparedness and response capabilities at state and local public health agencies, hospitals, and emergency medical service agencies, and the participants were required to complete specific activities designed to build public health and health care capacities. In fiscal years 2002 and 2003, HHS distributed a total of $2.5 billion toward this effort.

The General Accounting Office (GAO) has performed several studies relating to the public health system's preparedness for bioterrorist attacks and natural infectious disease outbreaks. In

testimony last year[1], GAO described how efforts of state and local public health agencies to prepare for a bioterrorist attack have improved the nation's capacity to respond to infectious disease outbreaks and other major public health threats, but also noted that gaps in preparedness remain. For example, most hospitals reported participating in basic planning activities for large-scale infectious disease outbreaks and training staff about biological agents, but most hospitals also lacked adequate equipment, isolation facilities, and staff to treat the large increase in the number of patients that could result from a bioterrorist attack. Not surprisingly, GAO found that jurisdictions that have had multiple prior experiences with public health emergencies, including natural disasters, demonstrated the highest levels of preparedness. In another study, GAO also found that while contingency plans for disease outbreaks or bioterrorist events are being developed at the state and local levels, planning for regional coordination that transcends state boundaries was lacking.[2]

Information Technology for Disease Surveillance and Information Sharing

Information technology (IT) systems can play a critical role in both detecting and responding to a public health emergency. Relevant examples of IT-facilitated information gathering include systems for environmental sampling and detection of bioterrorist agents or other infectious diseases; surveillance systems that provide ongoing collection and analysis of data related to behavior or symptoms potentially associated with disease outbreaks; and systems that facilitate the timely delivery of information to relevant responders and decision-makers. Ongoing advances in the development and deployment of sampling and surveillance systems are particularly critical, as early detection of a bioterrorist attack or disease outbreak enables public health officials to issue warnings and execute containment and treatment plans to mitigate the potential effects of the incident.

A large number of surveillance and information sharing systems are operational or planned throughout the country. In spring of 2003, a GAO survey of just six federal agencies identified about 70 such systems.[3] One example is the Department of Defense's Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE). This system is designed to support early identification of infectious disease outbreaks among personnel using military treatment facilities. The system works by gathering daily data on symptoms reported by patients and alerting officials when data show abnormal patterns. Another federal system is the CDC's Health Alert Network, which is aimed at ensuring communications capacity at all local and state health departments; ensuring that these departments have the capacity to receive distance learning offerings from CDC and others; and ensuring that the public health system has the capacity to broadcast and receive health alerts at every level.

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[1] U.S. General Accounting Office testimony before the Committee on Government Reform, House of Representatives on April 9, 2003; GAO-03-654T.
[2] U.S. General Accounting Office testimony before the Subcommittee on Emergency Preparedness and Response, Select Committee on Homeland Security, House of Representatives on September 24, 2003; GAO-03-1176T.
[3] U.S. General Accounting Office, Information Technology Strategy Could Strengthen Federal Agencies' Abilities to Respond to Public Health Emergencies, May 2003, GAO-03-139. The six agencies surveyed were the Department of Defense, the Department of Health and Human Services, the Department of Energy, the Department of Agriculture, the Environmental Protection Agency, and the Department of Veterans Affairs.

6. Questions for Witnesses

Questions for Mr. Schable
- How does the CDC work with state and local governments on preparedness for a bioterrorist attack?
- What tools and systems has the CDC developed, or is in the process of developing, to assist state and local governments in detecting and responding to a bioterrorist attack?
- If a bioterrorist attack occurred, what role would the CDC play in the response and how would the CDC coordinate with first responders, state and local governments, and health services providers?

Questions for Mr. Turner
- Please describe the elements of the Shawnee Mission Medical Center (SMMC) bioterrorism response plan. How has the plan been tested? Was the plan employed during last year's cryptosporidiosis outbreak? What lessons were learned from that experience and any other tests of the plan?
- How would you compare the SMMC bioterrorism response plan with the plans in place at similarly-situated hospitals throughout the country?
- How have federal, state, and local governments provided coordination and assistance in SMMC's efforts to prepare for a bioterrorist attack? What could these governments do to improve their efforts to help hospitals be better prepared for a bioterrorist attack?

Questions for Mr. Mason
- How does the current system for communication and coordination between hospitals and public health officials throughout the region work to facilitate overall first responder performance? How has this system changed or improved over the past several years?
- How have recent technology advancements improved the performance records of first responders?
- What could the federal government do to improve its efforts to help Johnson County be better prepared for a bioterrorist attack?

Questions for Mr. Morrissey
- What are the elements of the Kansas Bioterrorism Preparedness Program? What level of readiness currently exists in each of these elements, or "focus areas"?
- What systems have been put in place by the Kansas Department of Health and Environment for early detection of a possible bioterrorist attack? Is there clear integration and coordination among the public health system, first responders, and government officials about what to look for when trying to detect an attack and how to track information that may be useful for detection?
- In Kansas, how do federal, state, and local officials interact in developing bioterrorism preparedness plans? What could the federal government do to improve its contributions to support state and local preparedness?

Questions for Ms. Kent
- What is the Lawrence-Douglas County Health Department's role in regional preparedness for a potential bioterrorist attack?
- How have federal and state governments facilitated Lawrence-Douglas County's efforts to prepare for a bioterrorist attack? What could these governments do to improve their efforts to help the county be better prepared for a bioterrorist attack?
- Last summer, when the Kansas City area experienced an outbreak of cryptosporidiosis, how did your department interact with the CDC? Did the CDC offer the department and other local organizations an appropriate level of support during that outbreak?

Questions for Dr. Kendall
- What tools and systems is the Institute of Environmental and Human Health (TIEHH) working on to detect and respond to a bioterrorist attack? What organizations provide the funding to support this research and development? How are the resulting technologies transitioned to users?
- How does the TIEHH work with first responders and state and local government organizations to understand their needs for the technologies being developed at TIEHH? How do you work with them on education, training, and outreach?
- How can the federal government, particularly the Department of Homeland Security, improve its efforts to help communities be better prepared for a bioterrorist attack? Are there specific areas that demand increased attention?